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(21) Application number: **03262366**(71) Applicant: **SONY CORP**(22) Date of filing: **09.10.91**(72) Inventor: **HANAOKA HIDEAKI**
**(54) THREE-DIMENSIONAL WAVEGUIDE TYPE
OPTICAL MODULATOR**

 due to a temperature drift and a DC drift can be evaded
 and power loss to a feedback controller can be evaded.

(57) Abstract:

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PURPOSE: To set a modulating operation point to an optimum value at all times by providing an operation point setting electrode which utilizes electrooptic effect in a waveguide and detecting the output light from an optical modulator, and controlling a voltage applied to the operation point setting electrode with the detection signal and setting the operation point of the optical modulator.

CONSTITUTION: In the waveguide 2, the operation point setting electrode 3 which utilizes the electrooptic effect is provided separately from its modulation electrode 13. The output light from the optical modulator 1 is detected to control the voltage applied to the operation point setting electrode 3 with its detection signal and the operation point of the optical modulator 1 is set to the optimum position of output characteristics of the optical modulator 1, e.g. the most superior linearity point of the output characteristics, i.e., the center between the maximum point and minimum point of the output. Consequently, the influence of the movement of the operation point, etc.,

